

Prosopigastra morogoro, a New Species from Tanzania (Hymenoptera: Apoidea: Crabronidae: Larrini)

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Abstract.—The new species *Prosopigastra morogoro* Pulawski, from Tanzania, is characterized by a densely punctate frontal protuberance and gena, an unusual female pygidial plate, presence of a male pygidial plate, and unique male sternum VII. Its closest congener is the southern African *capensis* Brauns. Several corrections are made to an earlier diagnosis of the genus by Pulawski, 1979.

I revised the world species of *Prosopigastra* more than twenty years ago (Pulawski 1979). During a collecting trip to Tanzania in 2001, I discovered a spectacular undescribed species apparently never collected before. Its discovery requires three corrections to my earlier diagnosis of the genus: 1) The marginal cell is longer than in other members of the genus and is not broadly truncate, its length being 2.6–2.9× maximum width of the cell (inner dimensions) rather than 1.6–2.3, and the distance between its posteroapical corner equaling 1.1–1.4× its maximum width. Contrary to my original statement, the cell length of the new species overlaps with those of *Holotachysphex*, *Parapiagetia*, and *Tachysphex* and therefore is not diagnostic for the entire genus. 2) The pygidial plate of the female has a number of large, ill-defined punctures on its entire surface. The presence of an adlateral row of punctures, therefore, is not diagnostic for the entire genus. 3) Similarly, male tergum VII has a well-defined pygidial plate and lacks a translucent, impunctate apical depression. The presence of the depression and lack of a pygidial plate are not characteristics of the entire genus.

The terminology in the following description is as in Pulawski (1979).

Prosopigastra morogoro Pulawski, new species

Name derivation.—*Morogoro*, a town in Tanzania in whose vicinity the species was first discovered; a noun in apposition.

Recognition.—*Prosopigastra morogoro* is unique in having a conspicuous, densely punctate frontal protuberance and a uniformly, densely punctate gena, with punctures one diameter apart or less. In other *Prosopigastra*, the frontal protuberance is either prominent and impunctate or punctate and inconspicuous, and the genal punctures are several to many diameter apart, at least near the hypostomal carina. Also, the marginal cell of *morogoro* is longer than in any other species, its anterior margin being 2.6–2.9× maximum cell width (inner dimensions) rather than 1.6–2.3. The female has irregular, large punctures on the entire pygidial plate (Fig. 1d). In the male, tergum VII has a well-defined pygidial plate (unlike any other *Prosopigastra*), and sternum VIII is thickened near the apex, the thickening having an apical concavity (Fig. 2d, f), possibly a unique feature among Apoidea.

Description.—Frons microridged between antennal socket and protuberance; protuberance prominent, punctate throughout (punctures less than one diameter apart). Middle clypeal section convex, with minute carina emerging from corner of clypeal lobe and nearly parallel to clypeal free margin; lip slightly, obtusely pointed mesally, not incised laterally. Gena densely, uniformly punctate throughout, punc-

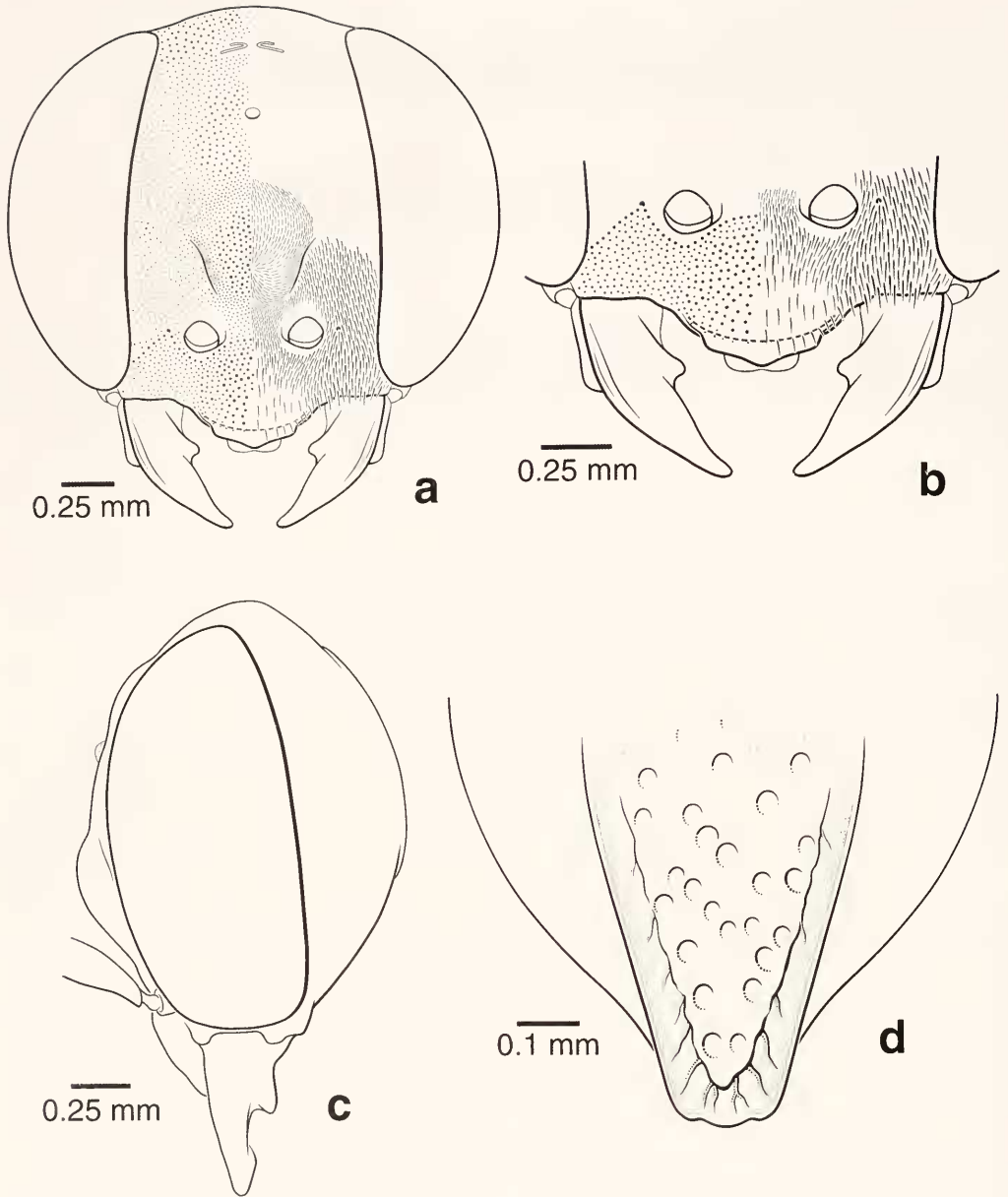


Fig. 1. *Prosopigastra morogoro*, female: a—head in frontal view, b—clypeus, c—head in lateral view, d—pygidial plate.

tures no more than one diameter apart. Ventral mandibular margin step-like, without preapical expansion at distal end of notch (hence notch open distally). Mesopleuron either punctate (punctures less than one diameter apart) or punctatorugose, with small unsculptured area above scrobe. Precoxal mesopleural carina

sharp, expanded into spine in male. Propodeal dorsum with longitudinal, anastomosed ridges, in some specimens irregularly rugose mesally. Marginal cell with dense microtrichia, its anterior margin longer than pterostigma, with length 2.6–2.9× maximum cell's width (inner dimensions), apical truncation oblique; distance

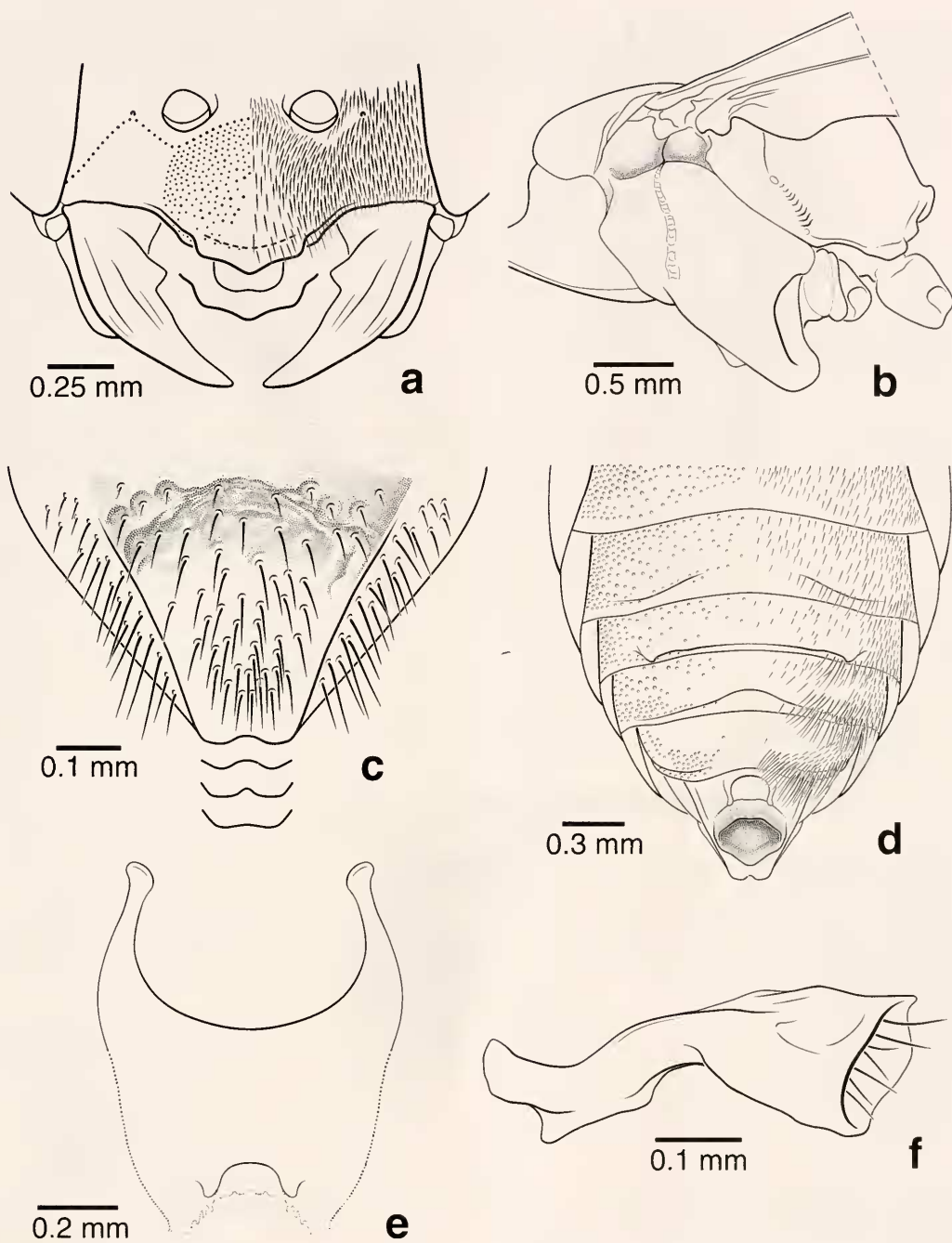


Fig. 2. *Prosopigaster morogoro*, male: a—clypeus, b—thorax in lateral view, c—pygidial plate, d—gastral sterna, e—sternum VII, f—sternum VIII in oblique lateral view.

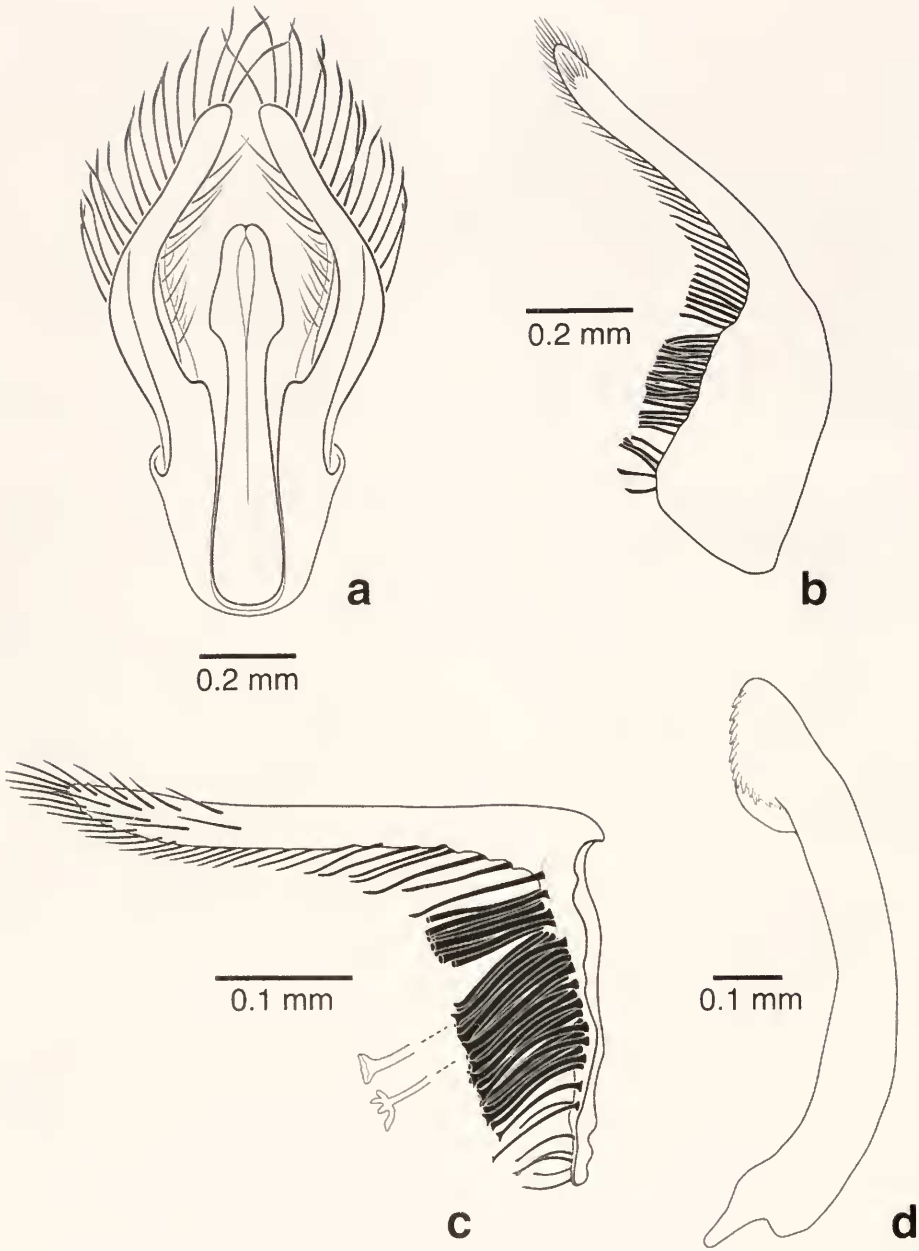


Fig. 3. *Prosopigastra morogoro*, male genitalia: a—dorsal view, b—gonoforceps in lateral view, c—volsella, d—penis valve.

between cell's posteroapical corner and anterior margin equal to $1.1-1.4\times$ cell's maximum width. Punctures less than one diameter apart between midocellus and orbit and on gena (except dorsally), no more than one diameter apart on interocellar area and scutum; less than one

diameter apart on hindfemoral outer surface except more than one diameter apart along ventral margin in female. Gastral terga coarsely punctate, terga I and II each with lateral line (lateral carina of Pulawski, 1979). Setae inclined anterad on vertex, about $1.5\times$ as long as mi-

docellar diameter, on scutum inclined posterad, shorter than midocellar diameter (longest near anterior margin). Mesopleural vestiture not obscuring integument. Upper metapleuron largely glabrous. Tergum I without tomentum in female, with rudimentary tomentum just posterad of basal declivity in many males. Body black except mandible reddish preapically in female and yellowish white in basal two thirds in male and tarsal apex brown. Wing membrane slightly infumate, veins dark brown.

Female.—Clypeus (Fig. 1a): lip slightly, obtusely pointed mesally, not incised laterally. Width of postocellar area about 2.5× length. Precoxal mesopleural carina sharp. Pygidial plate with irregular, large punctures, without setae in unique specimen in unique specimen, probably due to abrasion (Fig. 1d). Length 7.5 mm.

Male.—Flagellum cylindrical. Width of postocellar area 1.7–2.1× length. Mesothoracic venter deeply concave; precoxal mesopleural carina expanded into prominent spine (which is disproportionately larger in large specimens); spine connected by carina to apophysis-like signum. Tergum VII with well defined pygidial plate (Fig. 2c). Sterna III–VI shallowly concave mesally; sterna V and VI posterolaterally each with conspicuous tuft of setae; sternum VII with apical emargination that is partly covered by membrane (Fig. 2e); sternum VIII conspicuously thickened apically, with apical surface of thickening characteristically concave (2f). Length 6.1–8.5 mm. Genitalia, gonoforceps, volsella, and penis valve: Fig. 3a–d.

Relationships.—Within *Prosopigastra*, the lack of a ventral preapical expansion in the mandible is shared only by *morogoro* and *capensis* Brauns, and is clearly derived within the genus. The markedly modified male mesopleuron of *morogoro*, another conspicuous apomorphy, is also found in *capensis* and *creon* (Nurse). Most likely it is an independent development in the latter species, which belongs to the *globiceps* group of Pulawski (1979). The group is

characterized by the yellow legs markings and holoptic eyes in most males, two derived features that are absent in both *capensis* and *morogoro*. Thus, *capensis* and *morogoro* appear to be the closest relatives within *Prosopigastra*.

Type material.—Holotype ♂: Tanzania: Morogoro Region: 48 km W Morogoro at 6°56.9'S 37°20.2'E, M.H. Bourbin and W.J. Pulawski (California Academy of Sciences). Paratypes (all in California Academy of Sciences): TANZANIA: **Iringa Region**: 18 km W Iringa at 7°53.8'S 35°35.7'E, M.H. Bourbin and W.J. Pulawski, 9 June 2001 (1♂), 20 June 2001 (1♀, 5♂). **Morogoro Region**: same data as holotype: 3 June 2001 (2♂), 6 June 2001 (2♂), 11 June 2001 (2♂), 18 June 2001 (1♂); Omary S Haji and W.J. Pulawski, 2–3 July 2001 (1♂), 7 July 2001 (1♂), and 23 July 2001 (1♂). Most of the paratypes are deposited at the California Academy of Sciences, and one each in the Museum für Naturkunde, Berlin, The Natural History Museum, London, and the United States National Museum of Natural History, Washington, D.C.

ACKNOWLEDGMENTS

I sincerely thank Professor Marcelian Njau (University of Dar es Salaam, Tanzania) for his help in organizing my expedition, as well as my travel companions in Tanzania, Mrs. Maureen H. Bourbin (California Academy of Sciences, San Francisco, California) and Mr. Omary S. Haji (Dar es Salaam, Tanzania) for their help in collecting specimens; and Ms. Virginia Kirsch (San Francisco, California) for generating the illustrations. Upon my request, Arnold S. Menke and Michael A. Prentice reviewed earlier versions of the manuscript and significantly improved it. Michael Ohl, the official reviewer, also contributed to the quality of the paper.

LITERATURE CITED

- Pulawski, W. J. 1979. A revision of the World *Prosopigastra* Costa (Hymenoptera, Sphecidae). *Polskie Pismo Entomologiczne* 49: 3–134.